

Design Document

Database Design:

Schema and Tables under it created on MySQL database following normalization rules, SQL File containing DDL and DML is attached.

Front-End Design:

- User Interface is built using html and JavaScript.
- Results will be displayed as Table when user searches for any books using ISBN, Author, Title.
- Most of the Client interface is responsive made through JavaScript.

Backend Design:

- This Application was built using PHP, Any SQL commands required to run are executed on the database from using PHP by making an AJAX call from JavaScript files.
- Upon receiving results from database from query they are sent back to client using echo in PHP.

Design Assumptions while implementing the Application:

- Multiple copies of books are available assuming that ISBN for all the books are different.
- ISBN10 is used for the unique identification of books.
- User can search for any book using ISBN, Title, Author.
- User can Check-out multiple books at once (not more than three) from list of books shown upon search.
- User can check-out books even if he has pending fines and not exceeded max book limit.
- To Check-in books user can go to check in page and select the books to check in using card_id, book_id or borrower name.

- Users will be able to do multiple books check in at the same time, Also if there are any users are free to pay during check in or later through payment portal.
- As said in the requirements doc, New User Registration Portal will be able server new user signups.
- New users are checked whether already registered or not using SSN.
- Borrowers will be able to pay fines while checking in or later through payments portal.
- Fine payments portal can be use to update fines or calculate fines for any given card_id and also can make payments through the portal.
- In the Fine Payments portal users should update and calculate before paying any fines.